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State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

MICHAEL R. STYLER
Executive Director
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Inspection Report

Supervisor DRH

Minerals Regulatory Program
Date of Report: December 3, 2007

Mine Name: Bonanza
Operator Name: American Gilsonite

Permit number: M0470010
Inspection Date: November 27, 2007
Time: 10:00 AM to about 12:30 PM

Inspector(s): Paul Baker
Other Participants: Jared Jackson, American Gilsonite
Mine Status: Active

Weather: Mostly clear, 30s

Elements of Inspection	Evaluated	Comment	Enforcement
1. Permits, Revisions, Transfer, Bonds	☒	☐	☐
2. Public Safety (shafts, adits, trash, signs, highwalls)	☐	☐	☐
3. Protection of Drainages / Erosion Control	☐	☐	☐
4. Deleterious Material	☐	☐	☐
5. Roads (maintenance, surfacing, dust control, safety)	☐	☐	☐
6. Concurrent Reclamation	☐	☐	☐
7. Backfilling/Grading (trenches, pits, roads, highwalls, shafts, drill holes)	☐	☐	☐
8. Water Impoundments	☐	☐	☐
9. Soils	☒	☒	☐
10. Revegetation	☒	☒	☐
11. Air Quality	☐	☐	☐
12. Other	☒	☒	☐

Purpose of Inspection:
I wanted to verify observations made during previous inspections.

Inspection Summary:
1. Permits, Revisions, Transfer, Bonds
Some of the assumptions the Division used in its bond calculations were apparently incorrect or at least need to be checked. These include:

- Sites listed as WH-10 through WH-13 are actually just WH-11 and WH-12 with small escapeways.
- LE-19 is a typical one-acre site. It is not three acres as shown in the bond calculation.
- The BLM holds a bond of $23,613 for LE-5, but Mr. Jackson said this should probably be for three sites, LE-5, LE-6, and LE-7. LE-5 is reclaimed, and the cap was buried in 2006. LE-6 is inactive but has a full set of equipment. LE-7 is a small escapeway surrounded by a chain link fence.

- Mr. Jackson said I-30 has a separate reclamation bond with the BLM, but I am not sure this is correct.

9. Soils
Soil has been stockpiled at site B-48.

10. Revegetation
In a letter dated March 7, 2007, the Division stated that revegetation still needs to be accomplished at sites B-40, WH-12, LE-10, LE-16, LE-19, and LE-20. The operator responded that he felt these sites had adequate vegetation. LE-10 is typical of these sites (except B-40) and is shown in Photo 5.

Site B-40 (Photo 1) has a moderate amount of greasewood, big sage, and rabbitbrush, but most of the vegetation is cheatgrass and halogeton (now dead). I did not measure cover, but it appeared to be similar to that found in some of the adjacent undisturbed areas.

Vegetation at the other sites consists primarily of cheatgrass and halogeton with a few scattered plants of snakeweed, rabbitbrush, and big sage.

12. Other
We crossed a drainage that had a lot of salt crust on the banks (Photo 6), and this drainage apparently carries water from a mine water discharge. Mr. Jackson said the TDS limit is 3500 ppm, and the two lab reports in the Division's file show TDS values of 2650 and 2800 ppm.

Site B-48 is currently under construction (Photo 7).

Conclusions and Recommendations:
The soil stockpile at B-48 should be seeded this fall with a seed mix designed to provide erosion control and interim vegetation cover.

Vegetation cover at sites WH-12, LE-10, LE-16, LE-19, and LE-20 is probably about the same as in nearby undisturbed areas, but the problem is that there is little perennial cover meeting a wildlife habitat or grazing postmining land use. The Division normally uses cover values from non-weedy vegetation to compare reclaimed and undisturbed areas.

The seed mix listed in the reclamation plan consists of three species, Wyoming big sage, needle-and-thread grass, and shadscale, each to be seeded at a rate of four pounds PLS per acre. While all of these species are desirable and native to the area, they do not establish quickly enough that they can compete with the non-native annuals.

I recommend that the operator modify the revegetation plan to include some aggressive grasses in addition to some native species. Among the species the operator should consider are (rates given are in pounds of pure live seed per acre): "Hycrest" crested wheatgrass (3 pounds), forage kochia (0.5 pounds), bottlebrush squirreltail (1 pound), winterfat (2 pounds), and fourwing saltbush (3 pounds). I also recommend that the seeding rates for the species in the current seed mix be reduced to 0.5 pounds for Wyoming big sage, 1 pound for needle-and-thread grass, and 2 pounds of shadscale.

If the operator decides to make these changes, the notice of intention needs to be changed, and the operator will need to gain approval from the BLM, particularly since crested wheatgrass and forage kochia are not native. I believe, though, that the harsh conditions in this area and the revegetation results so far justify the use of these species.

The only way, of which I am aware, to establish perennial species in areas infested by cheatgrass is to first control the cheatgrass. There are a few possible ways to do this:

1. Wait until cheatgrass has germinated in the fall then rip or gouge the area to both roughen the surface and kill as much cheatgrass as possible.
2. Do surface preparation, seed, then use Plateau herbicide at a low rate. Plateau is fairly specific to annual grasses, but its use is not allowed on federal lands at this time.

Inspector's Signature PBB **Date:** 12/5/07

PBB:pb
cc: Jared Jackson, American Gilsonite
Stan Perkes, BLM
Attachment: Photos

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ATTACHMENT
Photographs
M0470010, Bonanza Mine, American Gilsonite
Inspection Dated: November 27, 2007; Report Dated: December 3, 2007

Photo 1. B-40.

Photo 2. LE-5. 2006 reclamation

Photo 3. LE-6.

Photo 4. LE-7.

Photo 5. LE-10 .

Photo 6. A drainage channel that carries water from a mine water discharge point. Note the salt crusts on the banks.

Photo 7. B-48.